

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants:	Roland Carlsson, <i>et al.</i>	§	Group Art Unit:	2416
		§		
Application No	10/596,748	§	Examiner:	Ghowrwal, Omar J
		§		
Filed:	06/22/2006	§	Confirmation No:	1054
		§		
Attorney Docket No:	P19146-US1			
Customer No.:	27045			

For: Power Control for High Speed Packet Data Transmission

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**APPEAL BRIEF**  
**SUBMITTED UNDER 35 U.S.C. §134**

This Brief is submitted to appeal the decision of the Primary Examiner set forth in Final Official Action dated June 16, 2009, finally rejecting claims 11-13, which are all of the pending claims in this application, and the Advisory Action dated August 26, 2009.

The Commissioner is hereby authorized to charge any appropriate fees under 37 C.F.R. §41.20(b)(2) that may be required by this paper, and to credit any overpayment, to Deposit Account No. 50-1379.

**Real Party in Interest**

The real party in interest, by assignment, is: Telefonaktiebolaget LM Ericsson (publ)  
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### **Related Appeals and Interferences**

None.

### **Status of Claims**

Claims 1-10 and 14-20 were previously cancelled and are not appealed. Claims 11-13 remain pending, each of which are finally rejected and form the basis for this Appeal. Claim 11 stands rejected, under 35 U.S.C. §103(a), as being unpatentable over Choi, *et al.* (U.S. Patent No. 7,283,508) in view of Ishii, *et al.* (U.S. Patent Publication No. 2004/0202104) and Lee, *et al.* (U.S. Patent Publication No. 2003/0125068); and claims 12-13 stand rejected, under 35 U.S.C. §103(a), as being unpatentable over Choi in view of Ishii, Lee and Yu, *et al.* (U.S. Patent Publication No. 2004/0086137).

### **Status of Amendments**

Claims 11-13, including all amendments to the claims, are attached in the Claims Appendix. The claims set out in the Claims Appendix include all entered amendments. No amendment has been filed subsequent to the final rejection.

### **Summary of Claimed Subject Matter**

Claim Elements	Specification References
11. A method, in a transmission unit, for transmitting packet data on at least one shared packet data channel and control data on a control channel, wherein control data for a given transmission interval (t) on the control channel pertains to at least the allocation of data for an associated transmission interval (t) on the shared packet data channel, wherein the transmission interval (t) of the control channel is overlapping the transmission interval (t) of the shared packet data channel, such that a first part of the control data of a present transmission interval of the control channel is transmitted while data may be transmitted on the shared packet data channel according to a previous transmission interval (t-1), and the second part of the control data of the present transmission interval of the control	Figures 5 and 16 Page 7, line 32, <i>et seq.</i>

channel is transmitted while packet data is to be transmitted on the shared packet data channel according to the present transmission interval (t), the shared packet data channel and the control channel operating on the same frequency spectrum, the method comprising the steps of:	
determining the available power (P_AVLB(t)) for transmission on the control channel and the shared packet data channel;	Figure 16; Step 6 Page 13, lines 12-13
scheduling data for transmission, determining:	Figure 16; Steps 7a, 7b
the power level of the shared packet data (P_PDS(t-1)) at a previous transmission interval;	Figure 16; Steps 7a Page 13, lines 22-23
the power level of the shared packet data (P_PDS(t)) at the present transmission interval;	Figure 16; Step 7b Page 13, lines 29-30
the power level of the control channel (P_SC_P1(t)) for the first part of the present transmission interval;	Figure 16; Step 7b Page 13, lines 31-32
setting the power level of the second part of the control data of the present transmission interval of the control channel (P_SC_P2(t)) as the power level of the first part (P_SC_P1(t)) adjusted by a function (F) based on the power level of the shared packet data channel at the present transmission interval (P_PDS(t)) and the previous transmission interval (P_PDS(t-1)).	Figure 16; Step 7c Page 14, lines 1-13

The specification references listed above are provided solely to comply with the USPTO's current regulations regarding appeal briefs. The use of such references should not be interpreted to limit the scope of the claims to such references, nor to limit the scope of the claimed invention in any manner.

#### **Grounds of Rejection to be Reviewed on Appeal**

1.) Whether claim 11, rejected, under 35 U.S.C. §103(a), is patentable over Choi, *et al.* (U.S. Patent No. 7,283,508) in view of Ishii, *et al.* (U.S. Patent Publication No. 2004/0202104) and Lee, *et al.* (U.S. Patent Publication No. 2003/0125068); and,

2.) Whether claims 12-13, rejected under 35 U.S.C. § 103(a), are patentable over Choi in view of Ishii, Lee and Yu, *et al.* (U.S. Patent Publication No. 2004/0086137).

### **Arguments**

**1.) Claim 11 is patentable over Choi in view of Ishii and Lee**

The Examiner has maintained the rejection of claim 11 as being unpatentable over Choi, *et al.* (U.S. Patent No. 7,283,508) in view of Ishii, *et al.* (U.S. Patent Publication No. 2004/0202104) and Lee, *et al.* (U.S. Patent Publication No. 2003/0125068); and claims 12-13 as being unpatentable over Choi in view of Ishii, Lee and Yu, *et al.* (U.S. Patent Publication No. 2004/0086137). The Applicants traverse the rejections.

As argued in a response filed on April 15, 2009 to a Non-final Office Action issued on January 15, 2009, in rejecting claim 11, the Examiner first relied on Figure 3 of Choi, which corresponds to Figure 1 of Applicant's disclosure regarding the prior art. Figure 3 of Choi illustrates the control channel HS-SCCH and one exemplary shared channel HS-PDSCH and the overlapping relationship thereof. Choi, however, fails to identify that the overlap causes any problem and there is no suggestion in Choi that an overlapping "second part of the control data of the present transmission interval of the control channel " can or should be regulated as is performed according to the invention recited in claim 11. The Examiner's stated reasons for rejection acknowledged that Choi fails to disclose multiple claim limitations. To overcome those deficiencies, the Examiner then looked to the teachings of Ishii and Lee. Although the Examiner points to portions of those references related to various power levels, the Examiner fails to point to a teaching in any of the references of "setting the power level of the second part of the control data of the present transmission interval of the control channel [ ] as the power level of the first part [ ] adjusted by a function [ ] based on the power level of the shared packet data channel at the present transmission interval [ ] and the previous transmission interval [ ]" as recited in claim 11. Not only did the Examiner not establish a basis for combining the teachings of the three references to solve the problem addressed by Applicant's invention, there does not seem to be any teaching in any of the references of the regulation of the power

level of a second part of a control channel in relation to a first part of a given transmission time interval. Therefore, the Examiner did not establish a *prima facie* case of obviousness of claim 11.

In responding to Applicants' arguments submitted on April 15, 2009, in the Final Office Action issued on June 16, 2006, the Examiner merely asserted that he "clearly points to specific portions of Ishii and Lee to teach" the last limitation of claim 11, and he provided "further clarification" on page 6 of the final office action. The Examiner's clarification consisted of referring to Figure 2 and Paragraph 0022 of Ishii, which describes the fact that the transmission power of certain channels is affected by the transmission power of other channels. As Ishii notes with respect to such cases: "the transmission power must be determined by considering all future transmission power in order to carry out transmission power allocation similar to that shown in FIG. 1," and that "[r]ealization thereof becomes difficult." As noted then in Paragraph 0023, "in order to solve this problem, as shown in FIG. 3., a method has been presented to secure the transmission power of the HS-SCCH in a fixed manner by defining an upper limit value (maximum transmission power) of the HS-SCCH, if the transmission timing of the HS-SCCH deviates from the transmission timing of the HS-PDSCH in the conventional HSDPA system." That teaching is not what is recited in claim 11, which is "setting the power level of the second part of the control data of the present transmission interval of the control channel (P\_SC\_P2(t)) as the power level of the first part (P\_SC\_P1(t)) adjusted by a function (F) based on the power level of the shared packet data channel at the present transmission interval (P\_PDS(t)) and the previous transmission interval (P\_PDS(t-1))." In particular, it is noted that the Examiner's arguments as to the teachings of Ishii refer to "a function of time – i.e. function 'F'." The function "F" recited in claim 11 is not a function of time, however, but is "based on the power level of the shared packet data channel at the present transmission interval (P\_PDS(t)) and the previous transmission interval (P\_PDS(t-1))." (emphasis added) Thus, there does not appear to be any teaching in any of the references of the regulation of the power level of a second part of a control channel in relation to a first part of a given transmission time interval. Therefore, the Examiner has not established a *prima facie* case of obviousness of claim 11.

**2.) Claims 12-13 are patentable over Choi in view of Ishii, Lee and Yu**

As established *supra*, claim 11 is not obvious over Choi in view of Ishii and Lee. The Examiner has not pointed to any teachings in Yu of "setting the power level of the second part of the control data of the present transmission interval of the control channel [ ] as the power level of the first part [ ] adjusted by a function [ ] based on the power level of the shared packet data channel at the present transmission interval [ ] and the previous transmission interval [ ]" as recited in claim 11. Thus, whereas claims 12-13 are dependent from claim 11, and include the limitations thereof, they are not obvious over Choi in view of Ishii, Lee and Yu.

**CONCLUSION**

The claims currently pending in the application are patentable over the cited references and the Applicants request that the Examiner's rejection thereof be reversed and the application be remanded for further prosecution.

Respectfully submitted,  
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## CLAIMS APPENDIX

1-10. (Cancelled).

11. (Previously Presented) A method, in a transmission unit, for transmitting packet data on at least one shared packet data channel and control data on a control channel, wherein control data for a given transmission interval (t) on the control channel pertains to at least the allocation of data for an associated transmission interval (t) on the shared packet data channel, wherein the transmission interval (t) of the control channel is overlapping the transmission interval (t) of the shared packet data channel, such that a first part of the control data of a present transmission interval of the control channel is transmitted while data may be transmitted on the shared packet data channel according to a previous transmission interval (t-1), and the second part of the control data of the present transmission interval of the control channel is transmitted while packet data is to be transmitted on the shared packet data channel according to the present transmission interval (t), the shared packet data channel and the control channel operating on the same frequency spectrum, the method comprising the steps of:

determining the available power ( $P_{AVLB}(t)$ ) for transmission on the control channel and the shared packet data channel;

scheduling data for transmission, determining:

the power level of the shared packet data ( $P_{PDS}(t-1)$ ) at a previous transmission interval;

the power level of the shared packet data ( $P_{PDS}(t)$ ) at the present transmission interval;

the power level of the control channel ( $P_{SC\_P1}(t)$ ) for the first part of the present transmission interval;

setting the power level of the second part of the control data of the present transmission interval of the control channel ( $P_{SC\_P2}(t)$ ) as the power level of the first part ( $P_{SC\_P1}(t)$ ) adjusted by a function (F) based on the power level of the shared packet data channel at the present transmission interval ( $P_{PDS}(t)$ ) and the previous transmission interval ( $P_{PDS}(t-1)$ ).

12. (Previously Presented) The method according to claim 11, wherein the function (F) corresponds to the difference between the power level of the shared packet data channel at the present transmission interval ( $P_{PDS}(t)$ ) and the previous transmission interval ( $P_{PDS}(t-1)$ ).

13. (Previously Presented) The method according to claim 12, wherein the power level of the second part of the control data of the present transmission interval of the control channel ( $P_{SC\_P2}(t)$ ) equals the sum of the power level of the first part of the control data of the present transmission interval of the control channel ( $P_{SC\_P1}(t)$ ) and the function (F).

14-20. (Cancelled)

\* \* \*

**EVIDENCE APPENDIX**

None.

**RELATED PROCEEDINGS APPENDIX**

None.